

CLAIMS

1. An image forming apparatus comprising:
a conveyance belt that conveys a recording
5 medium by attracting the recording medium by an
electrostatic force generated by electric charges
applied thereto;
a charger that applies electric charges to
said conveyance belt;
10 a recording head that discharges droplets of a
recording liquid toward the recording medium being
conveyed by said conveyance belt; and
adjusting means for adjusting an amount of
electric charges induced on a surface of the recording
15 medium,
wherein said adjusting means adjusts the
amount of the electric charges on the surface of the
recording medium, which has been conveyed to a recording
position where the droplets of the recording liquid are
20 discharged from said recording head toward the recording
medium, in accordance with a resistance value of the
recording medium.

2. The image forming apparatus as claimed in
25 claim 1, wherein said adjusting means adjusts the amount

of the electric charges on the surface of the recording medium in accordance with a result of detection of a surface resistance of the recording medium.

5 3. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium in accordance with a result of detection of a volume resistance of the recording medium.

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 4. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium in accordance with a result of detection of
15 environment temperature and humidity.

 5. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording
20 medium in accordance with externally given information regarding the resistance value of the recording medium.

 6. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount
25 of the electric charges on the surface of the recording

medium by controlling a charge period length of positive and negative charges applied by said charger to said conveyance belt.

5 7. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling an alternating voltage applied to said charger to apply positive and negative charges to
10 said conveyance belt.

8. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording
15 medium by controlling a timing of applying electric charges onto said conveyance belt so as to switch existence/nonexistence of charges on the surface of the recording medium.

20 9. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling at least one of a conveyance speed and a stop time of said conveyance belt so as to change
25 a time period from a time when the charges are applied

to said conveyance belt until a time when the charges on said conveyance belt reach the recording position.

10. An image forming apparatus comprising:
- 5 a conveyance belt that conveys a recording medium by attracting the recording medium by an electrostatic force generated by electric charges applied thereto;
- a charger that applies electric charges to
- 10 said conveyance belt;
- a recording head that discharges droplets of a recording liquid toward the recording medium being conveyed by said conveyance belt; and
- adjusting means for adjusting an amount of
- 15 electric charges induced on a surface of the recording medium,
- wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium in accordance with a result of detection
- 20 of a relative position between the recording medium and the charges applied to said conveyance belt.

11. The image forming apparatus as claimed in claim 10, wherein said adjusting means adjusts the
- 25 amount of the electric charges on the surface of the

recording medium by controlling a charge period length of positive and negative charges applied by said charger to said conveyance belt.

5 12. The image forming apparatus as claimed in claim 10, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling an alternating voltage applied to said charger to apply positive and negative
10 charges to said conveyance belt.

 13. The image forming apparatus as claimed in claim 10, wherein said adjusting means adjusts the amount of the electric charges on the surface of the
15 recording medium by controlling a timing of applying electric charges onto said conveyance belt so as to switch existence/nonexistence of charges on the surface of the recording medium.

20 14. The image forming apparatus as claimed in claim 10, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling at least one of a conveyance speed and a stop time of said conveyance belt
25 so as to change a time period from a time when the

charges are applied to said conveyance belt until a time when the charges on said conveyance belt reach the recording position.

- 5 15. An image forming apparatus comprising:
 a conveyance belt that conveys a recording
medium by attracting the recording medium by an
electrostatic force generated by electric charges
applied thereto;
- 10 a charger that applies electric charges to
said conveyance belt;
 a recording head that discharges droplets of a
recording liquid toward the recording medium being
conveyed by said conveyance belt; and
- 15 adjusting means for adjusting an amount of
electric charges induced on a surface of the recording
medium,
- wherein said adjusting means adjusts the
amount of the electric charges on the surface of the
20 recording medium in accordance with a size of the
droplets of the recording liquid discharged from said
recording head.

16. The image forming apparatus as claimed in
25 claim 15, wherein said adjusting means adjusts the

amount of the electric charges on the surface of the recording medium in accordance with externally given information recording a size of the droplets of the recording liquid.

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17. The image forming apparatus as claimed in claim 15, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling a charge period length
10 of positive and negative charges applied by said charger to said conveyance belt.

18. The image forming apparatus as claimed in claim 15, wherein said adjusting means adjusts the
15 amount of the electric charges on the surface of the recording medium by controlling an alternating voltage applied to said charger to apply positive and negative charges to said conveyance belt.

20 19. The image forming apparatus as claimed in claim 15, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling a timing of applying electric charges onto said conveyance belt so as to
25 switch existence/nonexistence of charges on the surface

of the recording medium.

20. The image forming apparatus as claimed in claim 15, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling at least one of a conveyance speed and a stop time of said conveyance belt so as to change a time period from a time when the charges are applied to said conveyance belt until a time when the charges on said conveyance belt reach the recording position.

21. An image forming apparatus comprising:
a conveyance belt that conveys a recording medium by attracting the recording medium by an electrostatic force generated by electric charges applied thereto;
a charger that applies electric charges to said conveyance belt;
a recording head that discharges droplets of a recording liquid toward the recording medium being conveyed by said conveyance belt; and
adjusting means for adjusting an amount of electric charges induced on a surface of the recording medium,

wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium in accordance with a viscosity of the droplets of the recording liquid discharged from said
5 recording head.

22. The image forming apparatus as claimed in claim 21, wherein said adjusting means adjusts the amount of the electric charges on the surface of the
10 recording medium in accordance with a result of detection of an environment temperature.

23. The image forming apparatus as claimed in claim 21, wherein said adjusting means adjusts the
15 amount of the electric charges on the surface of the recording medium by controlling a charge period length of positive and negative charges applied by said charger to said conveyance belt.

20 24. The image forming apparatus as claimed in claim 21, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling an alternating voltage applied to said charger to apply positive and negative
25 charges to said conveyance belt.

25. The image forming apparatus as claimed in claim 21, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling a timing of applying electric charges onto said conveyance belt so as to switch existence/nonexistence of charges on the surface of the recording medium.

10 26. The image forming apparatus as claimed in claim 21, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling at least one of a conveyance speed and a stop time of said conveyance belt so as to change a time period from a time when the charges are applied to said conveyance belt until a time when the charges on said conveyance belt reach the recording position.

20 27. An image forming apparatus comprising:
a conveyance belt that conveys a recording medium by attracting the recording medium by an electrostatic force generated by electric charges applied thereto;
25 a charger that applies electric charges to

said conveyance belt;

a recording head that discharges droplets of a recording liquid toward the recording medium being conveyed by said conveyance belt; and

5 adjusting means for adjusting an amount of electric charges induced on a surface of the recording medium,

wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium in accordance with at least two items including a resistance value of the recording medium, a result of detection of a relative position between the recording medium and the charges applied to said conveyance belt, a size of the droplets of the recording liquid discharged from said recording head and a viscosity of the droplets of the recording liquid discharged from said recording head.

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28. The image forming apparatus as claimed in claim 27, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling a charge period length of positive and negative charges applied by said charger to said conveyance belt.

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29. The image forming apparatus as claimed in claim 27, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling an alternating voltage applied to said charger to apply positive and negative charges to said conveyance belt.

30. The image forming apparatus as claimed in claim 27, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling a timing of applying electric charges onto said conveyance belt so as to switch existence/nonexistence of charges on the surface of the recording medium.

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31. The image forming apparatus as claimed in claim 27, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling at least one of a conveyance speed and a stop time of said conveyance belt so as to change a time period from a time when the charges are applied to said conveyance belt until a time when the charges on said conveyance belt reach the recording position.

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32. An image forming apparatus configured and arranged to perform both-side printing, comprising:

a conveyance belt that conveys a recording medium having a first surface and a second surface opposite to the first surface by attracting the recording medium by an electrostatic force generated by electric charges applied thereto;

a charger that applies electric charges to said conveyance belt;

10 a recording head that discharges droplets of a recording liquid toward the recording medium being conveyed by said conveyance belt; and

adjusting means for adjusting an amount of electric charges induced on a surface of the recording medium,

15 wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium, which has been conveyed to a recording position where the droplets of the recording liquid are discharged from said recording head toward the recording medium, in accordance with a resistance value of the recording medium and a fact as to whether an image is being formed on the first surface to be printed first or the second surface printed subsequent to the first surface.

33. The image forming apparatus as claimed in claim 32, wherein a resistance value of the second surface of the recording medium is presumed in accordance with an amount of the recording liquid
5 adhered onto the first surface of the recording medium.

34. The image forming apparatus as claimed in claim 33, wherein a resistance value of each predetermined area of the second surface of the
10 recording medium is presumed in accordance with an amount of the recording liquid adhered on each predetermined area of the first surface of the recording medium.

15 35. The image forming apparatus as claimed in claim 32, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling a charge period length of positive and negative charges applied by said charger
20 to said conveyance belt.

36. The image forming apparatus as claimed in claim 32, wherein said adjusting means adjusts the amount of the electric charges on the surface of the
25 recording medium by controlling an alternating voltage

applied to said charger to apply positive and negative charges to said conveyance belt.

37. The image forming apparatus as claimed in
5 claim 32, wherein said adjusting means adjusts the
amount of the electric charges on the surface of the
recording medium by controlling a timing of applying
electric charges onto said conveyance belt so as to
switch existence/nonexistence of charges on the surface
10 of the recording medium.

38. The image forming apparatus as claimed in
claim 32, wherein said adjusting means adjusts the
amount of the electric charges on the surface of the
15 recording medium by controlling at least one of a
conveyance speed and a stop time of said conveyance belt
so as to change a time period from a time when the
charges are applied to said conveyance belt until a time
when the charges on said conveyance belt reach the
20 recording position.